HALEY & ALDRICH

BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

TECHNICAL MEMORANDUM
Quarterly Report No. 1
Fourth Quarter 2001
Extended Soil Vapor Extraction Pilot Testing

To: **Mr. Brian Mossman**
Boeing Realty Corporation
3855 Lakewood Blvd.
Building 1A MC D001-0097
Long Beach, CA 90846

From: **Haley & Aldrich, Inc.**

Date: **January 30, 2002**

Re: **Quarterly Report No. 1, Fourth Quarter 2001, Extended Soil Vapor Extraction Pilot Testing, Boeing Realty Corporation, Former C-6 Facility – Parcel C, Los Angeles, California**

Haley & Aldrich, Inc. has prepared this report to summarize extended soil vapor extraction (SVE) pilot test activities conducted at the former Boeing C-6 Facility (subject property), in Los Angeles, California. During the period of September 11, 2001 through January 3, 2002, extended pilot tests were operated in one or both of the following areas:

- Former Building 1/36
- Former Building 2

This memorandum summarizes system operations, field measurements, vapor sampling and analysis, mass removal, and planned future SVE operations.

BACKGROUND

Laboratory results for soil samples collected in the Building 1/36 and Building 2 areas indicated the presence of volatile organic compounds (VOCs) at depth requiring remediation to prevent possible impact to groundwater. Based on the results of the investigation, shallow occurrences of impacted soil (less than 12 feet below ground surface) were excavated and disposed of at an approved facility. SVE was recommended for the remediation of deep impacted soil. Haley & Aldrich was contracted by BRC to install and operate two extended SVE pilot tests to obtain data for the evaluation of using SVE as a full-scale remedy. Workplans for the pilot test activities in the Building 1/36 and Building 2 areas were submitted and approved by the Regional Water Quality Control Board, Los Angeles Region (LARWQCB) in May and September, 2001, respectively.

BUILDING 1/36

The Building 1/36 extended pilot test system consisted of six 2-inch diameter, dual-completion, SVE wells, a trailer-mounted, 250-standard cubic feet per minute (scfm) blower system, two 8,000-lb granular activated carbon (GAC) vapor control vessels (primary and secondary), and associated piping. Haley & Aldrich installed the initial pilot test wells in June 2001 and began system operation on July 2, 2001. The location of the Building 1/36 pilot test is shown in Figure 1. The well field layout, including well screen depths is shown on Figure 2.

The initial dual-completion pilot test wells (designated VEW-1 through VEW-6) were screened from approximately 15 feet to 35 feet below ground surface (bgs) (labeled "A") and 50 feet to 65 feet bgs (labeled "B"). Two soil-vapor probe clusters (P-1 and P-2), installed previously by Montgomery Watson, were also used to obtain vacuum readings for radius of influence calculations during the Building 1/36 SVE pilot test. The initial six dual-completion SVE wells were removed in October 2001 to permit site grading and soil compaction in the area. Replacement well 1-VEW-24, constructed of two 3-inch diameter PVC casings, screened from 16 to 36 feet bgs and from 46 to 71 feet bgs, was installed on November 29, 2001 to continue pilot testing in the Building 1/36 area. Well screens were adjusted deeper due to an increase in site elevation due to grading. The system was restarted on December 13, 2001 and shut down the following week due to primary GAC bed breakthrough. U.S. Filter changed the carbon on December 28, 2001 and the system was restarted. Final field measurements for the year were taken on January 3, 2002.

FOURTH QUARTER 2001 SVE OPERATION SUMMARY

Days of Operations	28
Available Days of Operation	34
Operational Time (%)	82
Mass Removed during Period (lbs)	826
Cumulative Mass Removed (lbs)	2,032

OPERATION

Operational data and VOC mass removal for the extended SVE pilot test system are tabulated and shown graphically in Attachment 1. The system operation timeline for the period is as follows:

- September 11, 2001 — System re-started after GAC changeout
- October 1, 2001 — System shut down for site grading and well replacement
- December 13, 2001 — System re-started
- December 20, 2001 — System shut down for GAC changeout
- December 28, 2001 — System re-started

Total days of operation for this period was approximately 28 with intermittent downtime due to GAC changeout, well removal and reinstallation, and site grading. This equates to an up-time of approximately 82 percent when compared with the days available for operation as shown in Attachment 1.

During the period from September 11, 2001 to January 3, 2002, VOC vapors were drawn individually from wells VEW-2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B, 6A, 6B and 24B with valves 100 percent open at the wellheads. The diluted process flowrates ranged from approximately 32 to 200 scfm. Inlet vacuums ranged from 47 to 77 inches of water column (inches H_2O).

For this reporting period, approximately 826 lbs. of VOCs were extracted from the SVE wells and treated with GAC during 674 hours of operation. Since July 2, 2001 approximately 2,032 lbs. of VOCs have been extracted during approximately 1,625 hours of operation. Operation of the extended SVE pilot test system is in compliance

with the multiple-locations permit from the South Coast Air Quality Management District (SCAQMD).

FIELD MEASUREMENTS

VOC concentrations were measured with a photo-ionization detector (PID), calibrated to 100 parts per million by volume (ppmv) isobutylene, with readings converted to hexane equivalents, at the undiluted inlet, diluted inlet, between the GAC vessels, and at the exhaust stack. Flowrates were measured with a hand-held TSI Veloci-clac Plus hot-wire anemometer or by measuring the pressure differential across an orifice plate. Additional measurements were collected during operation including vacuum readings at each extraction well and vapor probe, pressures at the GAC vessels, and blower exhaust temperature. The field measurements are summarized in Attachment 1.

VAPOR SAMPLING AND ANALYSIS

For this period, seven pairs of vapor samples were collected in Tedlar bags from the diluted process air stream (inlet to primary GAC vessel and exhaust from the secondary GAC vessel) and delivered to a state-certified laboratory for analysis. These samples were collected for SCAQMD permit compliance as well as system performance evaluation. The vapor samples were collected using a Tedlar bag in a vacuum case. Laboratory analyses were conducted on vapor grab samples using EPA Method 8260B/TO-14A. The full results of the vapor sampling are summarized in Attachment 1.

Based on the results of the laboratory analysis of vapor grab samples, maximum diluted inlet VOC concentrations as parts per billion by volume (ppbv) for the period are as follows:

• Toluene	1,200,000 ppbv
• 1,1,1 Trichloroethane (1,1,1 TCA)	310,000 ppbv
• 1,1 Dichloroethene (1,1 DCE)	260,000 ppbv
• Trichloroethene (TCE)	100,000 ppbv
• Xylene	78,000 ppbv
• Methylene chloride	35,000 ppbv
• 1,1 Dichloroethane (1,1 DCA)	14,000 ppbv
• 2-Butanone (MEK)	9,200 ppbv
• Cis-1,2 Dichloroethene (Cis-1,2 DCE)	7,500 ppbv

Reported influent concentrations varied during the period due to the effects of different operational configurations used during pilot testing. All exhaust sample analyses reported VOC concentrations within the permit limitations.

ACTIVITIES FOR NEXT QUARTER

The extended SVE pilot test will continue operation on well 1-VEW-24A and B, with GAC changeouts as necessary. A full-scale SVE system is being designed for the Building 1/36 area and includes 43 single and dual completion wells designated 1-VEW-1 through 1-VEW-26. Implementation of the full-scale SVE system will be in accordance with the *Interim Actin Soil Vapor Extraction Workplan*, by Haley & Aldrich, submitted to the LARWQCB in October 2001. The full-scale SVE system will be permitted through the SCAQMD.

Full-scale SVE equipment will be fabricated and well heads and field piping will be installed in January 2002.

It is anticipated that the Building 1/36 full-scale SVE system will be installed in January 2002 with startup occurring in February 2002.

A First Quarter 2002 report summarizing activities during the period January 2002 through March 2002 will be prepared and submitted to BRC.

BUILDING 2

The Building 2 extended pilot test system consists of fifteen 2-inch diameter, PVC, single and dual-completion SVE wells, a trailer-mounted, 800-actual cubic feet per minute (acfm) blower system, two 3,000-lb GAC vapor control vessels (primary and secondary), and associated piping. Haley & Aldrich installed the initial pilot test wells in September 2001 and began system operation on November 27, 2001. The location of the Building 2 pilot test is shown in Figure 1. The well field layout, including well screen depths is shown on Figure 3.

FOURTH QUARTER 2001 SVE OPERATION SUMMARY

Days of Operations	31
Available Days of Operation	34
Operational Time (%)	91
Mass Removed during Period (lbs)	412
Cumulative Mass Removed (lbs)	412

OPERATION

Operational data and VOC mass removal for the extended SVE pilot test system are tabulated and shown graphically in Attachment 2. The system operation timeline for the period is as follows:

- November 27, 2001 — System start-up
- December 28, 2001 — System shut down for GAC changeout
- December 28, 2001 — System re-started

Total days of operation for this period was approximately 31 with intermittent downtime due to GAC changeout. This equates to an up-time of approximately 91 percent when compared with the days available for operation as shown in Attachment 2.

During the period, VOC vapors were drawn from wells VEW-3B, 4, 7A, 7B, 8B, 9, 10A, 11B, and 14B with valves 100 percent open at the wellheads. Individual SVE well flow rates ranged from 8 to 95 scfm for a total from the well field of 55 to 400 scfm. The diluted process flowrates ranged from 725 to 795 scfm. Inlet vacuums ranged from 28 to 39 inches H_2O.

For this reporting period, and to-date, approximately 412 lbs. of non-methane VOCs (as hexane) were extracted from the SVE wells and treated with GAC during 808 hours of operation. Operation of the extended SVE pilot test system is in compliance with the multiple-locations permit from the SCAQMD.

FIELD MEASUREMENTS

VOC concentrations were measured with a PID, calibrated to 100 ppmv hexane, as per the SCAQMD permit requirements, at the undiluted inlet, diluted inlet, between the GAC vessels, and at the exhaust stack. Flowrates were measured with a hand-held TSI Veloci-clac Plus hot-wire anemometer or by measuring the

pressure differential across an orifice plate. Additional measurements were collected during operation including vacuum readings at each extraction well, pressures at the GAC vessels, and blower exhaust temperature. The field measurements are summarized in Attachment 2.

VAPOR SAMPLING AND ANALYSIS

For this period, seven pairs of vapor samples were collected in Tedlar bags from the diluted process air stream (inlet to primary GAC vessel and exhaust from the secondary GAC vessel) and delivered to a state-certified laboratory for analysis. These samples were collected for SCAQMD permit compliance as well as system performance evaluation. The vapor samples were collected using a Tedlar bag in a vacuum case. Laboratory analyses were conducted on vapor grab samples using EPA Method 8260B/TO-14A. The full results of the vapor sampling are summarized in Attachment 2.

Based on the results of the laboratory analysis of vapor grab samples, maximum diluted inlet VOC concentrations as ppbv for the period are as follows:

- Trichloroethene (TCE) 21,000 ppbv
- 1,1 Dichloroethene (1,1 DCE) 1,600 ppbv
- Trichloroethane (1,1,1 TCA) 280 ppbv
- Tetrachloroethene (PCE) 260 ppbv
- Trichlorofluoromethane 64 ppbv

Reported influent concentrations varied during the period due to the effects of different operational configurations used during pilot testing. All exhaust sample analyses reported VOC concentrations within the permit limitations.

ACTIVITIES FOR NEXT QUARTER

The extended SVE pilot test will continue operation on SVE wells selected to maximize mass removal. GAC changeouts will be conducted as necessary. A sound-reduction enclosure will be fabricated for the blower and motor housings, and installed in January 2002.

A First Quarter 2002 report summarizing activities during the period January 2002 through March 2002 will be prepared and submitted to BRC.

We appreciate the opportunity to provide environmental consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

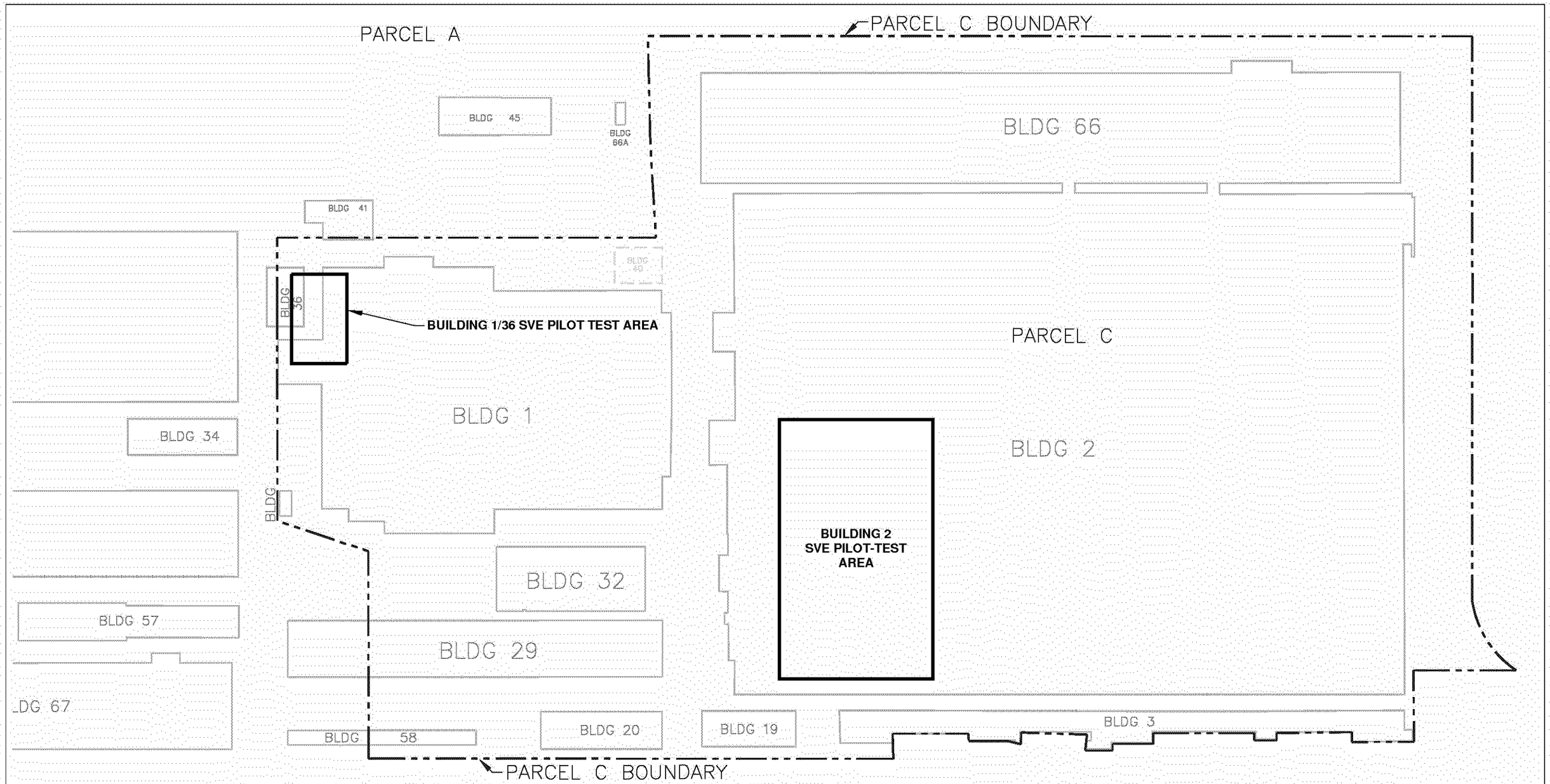
Richard M. Farson, PE
Senior Engineer

Scott P. Zachary
Project Manager

Enclosures:

Figure 1 – Pilot Test Locations
Figure 2 – Building 1/36 SVE Pilot Test System
Figure 3 – Building 2 SVE Pilot Test System
Attachment 1 – Building 1/36 SVE Operational Data
Attachment 2 – Building 2 SVE Operational Data

cc: John Scott, Boeing
Scott Zachary, Haley & Aldrich
Richard Farson, Haley & Aldrich
File



SOURCE OF BASEMAP: KENNEDY JENKS CONSULTANTS, 2000, SAMPLING AND ANALYSIS PLAN, BOEING REALTY CORPORATION'S C-6 FACILITY, PARCEL C, LOS ANGELES, CA, AUGUST 18, 2000.
G:\PROJECTS\BOEING\C-6\AUTOCAD\SVE\THIRD & FOURTH QUATER 2001 REMEDIATION REPORT\Buildings 1 & 2 Combined\FIGURE 1 - PILOT TEST LOCATIONS.DWG

HALEY & ALDRICH
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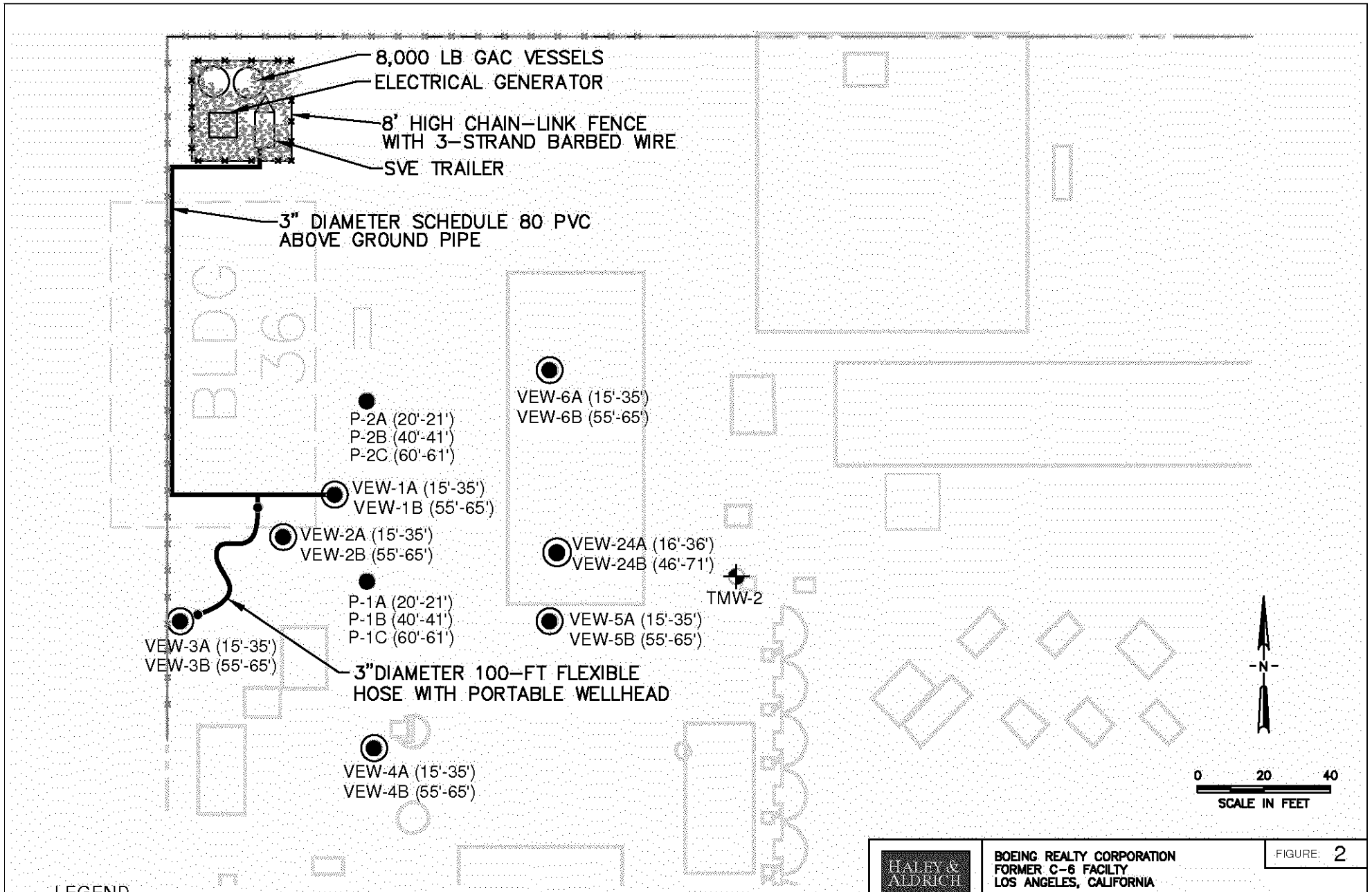
BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE: 1

PILOT TEST LOCATIONS BUILDINGS 1 & 2

SCALE: AS SHOWN	QA/QC:	PROJECT: 27960-003 28335-003
DRAWN: SAL	REVIEWED: RMF	DATE: 28 JAN. 2002



LEGEND

- GROUNDWATER MONITOR WELL
- VAPOR EXTRACTION WELL
- VAPOR PROBE
- (20'-21') SCREEN INTERVALS (FEET BELOW GROUND SURFACE)

G:\PROJECTS\ENVIRONMENTAL\BOEING\C-6\AUTOCAD\SVE\Third & Fourth quarter 2001 soil remediation report\Firgure 2 - Building 1/36 SVE Pilot Test System

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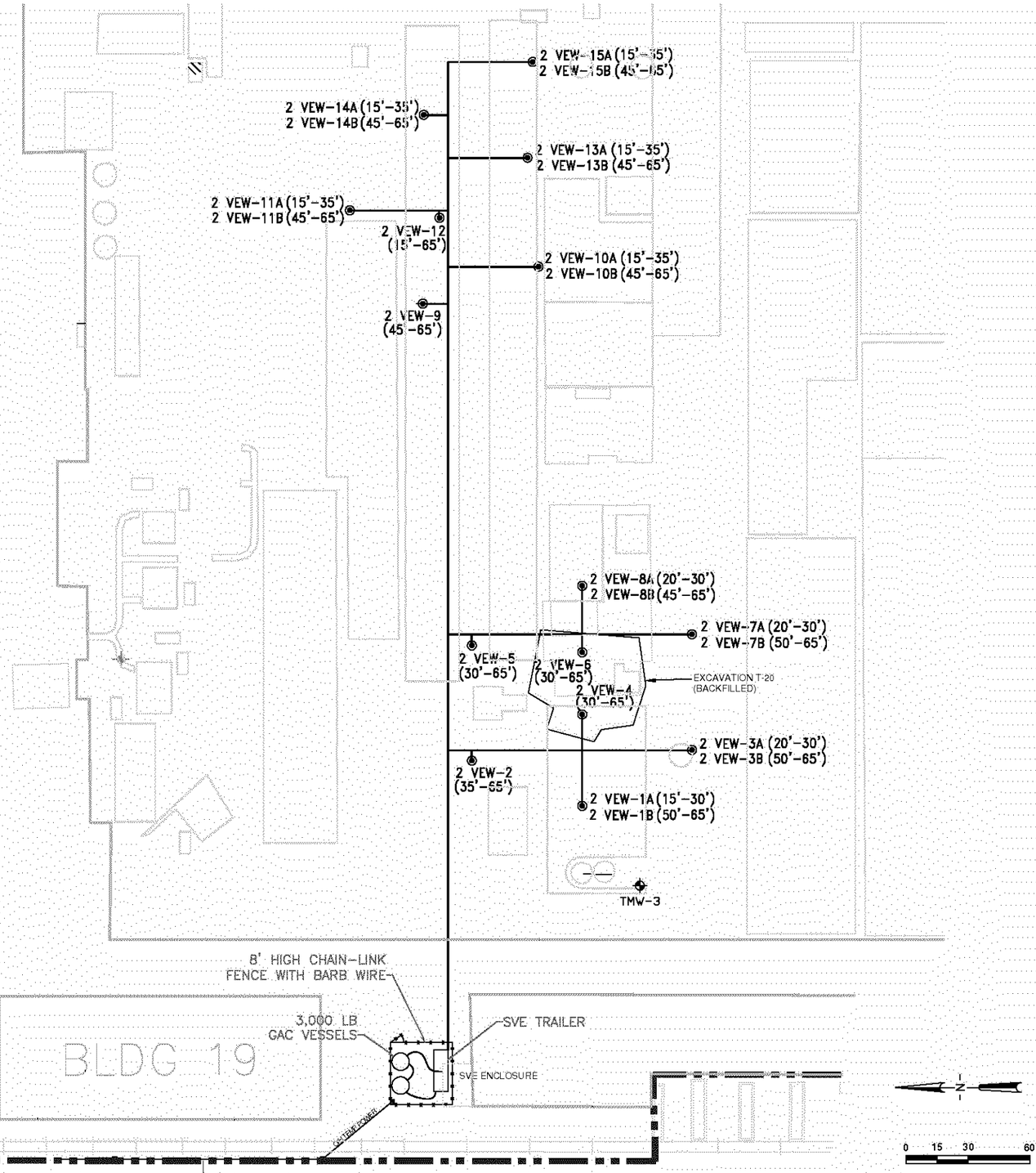
LOS ANGELES, CALIFORNIA

FIGURE: 2

BUILDING 1/36 SVE
PILOT TEST SYSTEM

SCALE: NTS		PROJECT: 27960-003 28335-003
DRAWN: SAL	REVIEWED: RMF	DATE: 16 JAN, 2002



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BOEING REALTY CORPORATION
FORMER C-6 FACILTY
LOS ANGELES, CALIFORNIA

FIGURE: 3

BUILDING 2 SVE PILOT TEST SYSTEM DIAGRAM

SCALE: AS SHOWN
PROJECT: 27960-003 28335-003
DRAWN: SAL | REVIEWED: RMF | DATE: 28 JAN, 2001

G:\PROJECTS\BOEING\C-6\AUTOCAD\SVE\THIRD & FOURTH QUARTER 2001 SOIL REMEDIATION REPORT\FIGURE 3 - BUILDING 2 SVE PILOT TEST SYSTEM

ATTACHMENT 1

BUILDING 1/36
SVE OPERATIONAL DATA

TABLE 1 - BUILDING 1/36 TREATMENT SYSTEM INFLUENT LABORATORY DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 1/36 SVE system

COMPOUND	SAMPLE DATE	9/11/2001	9/17/2001	9/24/2001	9/27/2001	9/28/2001	1/3/2002
	SAMPLE TYPE	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet
	LAB ID	VEW3A_ DILUTED_ 091101	VEW3B_ DILUTED_ 091701	VEW3B_ DILUTED_ 092401	VEW_5A_ DILUTED 09/27/01	VEW_2A_ DILUTED 09/28/01	DILUTED_ BLDG1_ 010302
1,1 Dichloroethene (ppbv)		180,000	160,000	210,000	260,000	28,000	32,000
Methylene chloride (ppbv)		ND	1,400	18,000	890	35,000	ND
1,1 Dichloroethane (ppbv)		1,900	3,300	11,000	6,400	8,600	14,000
2-Butanone (MEK) (ppbv)		ND	ND	ND	ND	9,200	ND
cis-1,2 Dichloroethene (ppbv)		3,800	5,750	7,500	1,700	3,300	290
1,1,1 Trichloroethane (ppbv)		3,500	28,000	180,000	52,000	310,000	34,000
Trichloroethene (ppbv)		46,000	48,000	56,000	100,000	41,000	12,000
Toluene (ppbv)		670	3,000	82,000	ND	1,200,000	1,800
Xylene (ppbv)		ND	3,500	6,700	ND	78,000	ND

Notes:
ppbv = parts per billion by volume
ND = Below method detction limits

TABLE 2 - BUILDING 1/36 TREATMENT SYSTEM FIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 1/36 SVE system

DATE	HOUR METER	TIME	UNDILUTED FLOW RATE (1) (scfm)	UNDILUTED VACUUM (inches H_2O)	DILUTED FLOW RATE (1) (scfm)	DILUTED INFLUENT PID (2) (ppmv)	MID PONT CARBON PID (2) (ppmv)	EFFLUENT CARBON PID (2) (ppmv)	COMMENTS
9/11/2001	954	14:23	26	53	90	370	0.2	0.1	
9/17/2001	1105	18:00	5	60	96	340	0.1	0.1	
9/24/2001	1206	15:00	12	59	93	880	0.1	0.1	
9/27/2001	1274	9:45	35	55	91	870	0.0	0.0	
9/28/2001	1299	11:00	14	77	32	>2000	0.0	0.0	
10/1/2001	1371	10:00	23	64	32	1170	0.0	0.0	ystem shut down, site grading and well replacement
12/13/2001	1399	15:00	7	54	200	1515	1.5	0.0	
12/20/2001	1483	14:15	6	47	200	800	430.0	0.0	System shut down, Carbon changeout
1/3/2002	1625	13:15	32	48	200	320	0.0	0.0	

Notes:
(1) Direct flow readings taken by hand-held TSI Veloci-calc Plus or orifice plate
(2) Measurements taken with a MiniRae 2000 PID calibrated to 100 ppmv Hexane or 100 ppmv Isobutylene, expressed as Hexane
scfm = standard cubic feet per minute
ppmv = parts per million by volume
NR = Not Recorded
> Greater than

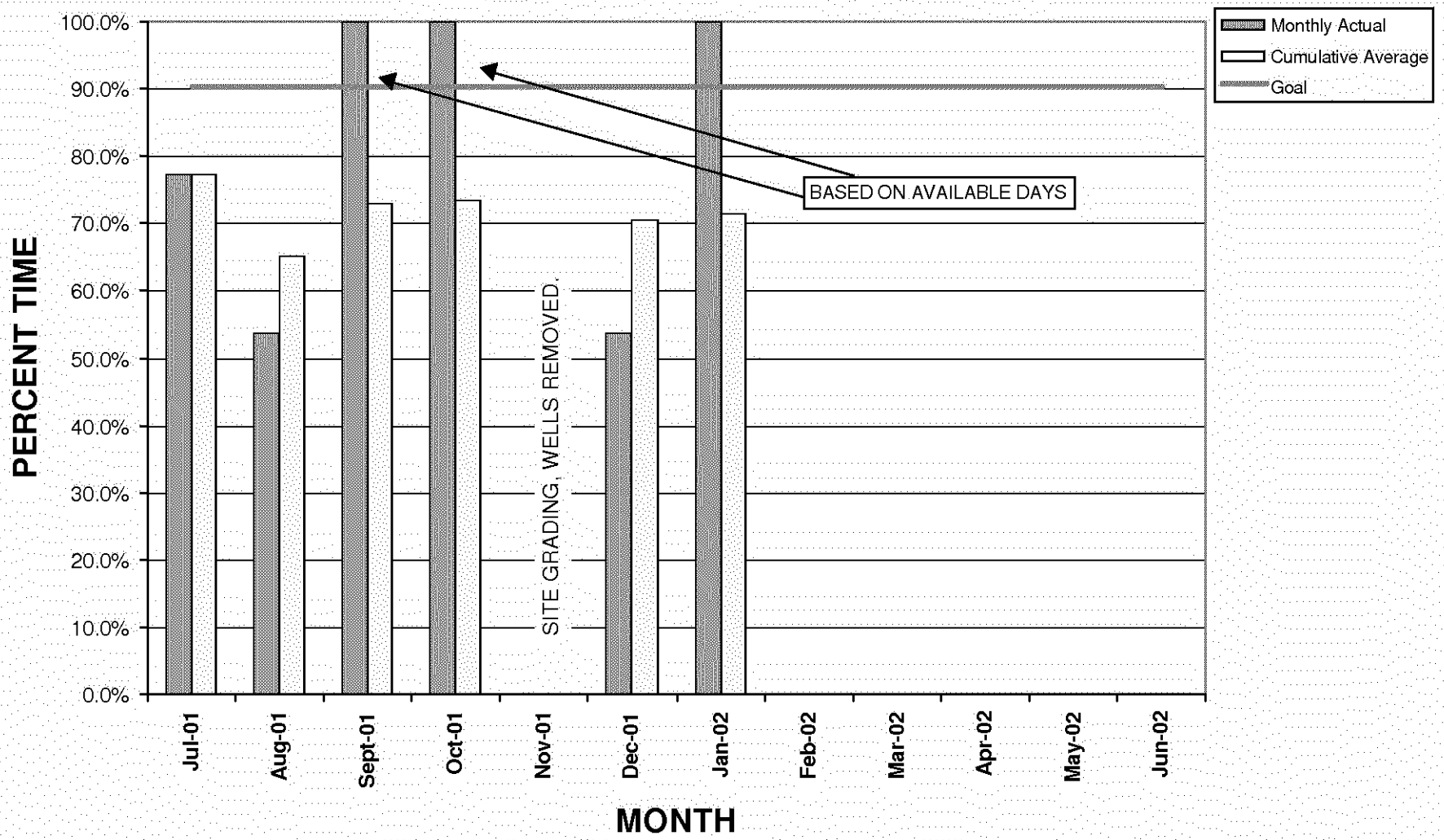
TABLE 3 - WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 1/36 SVE system

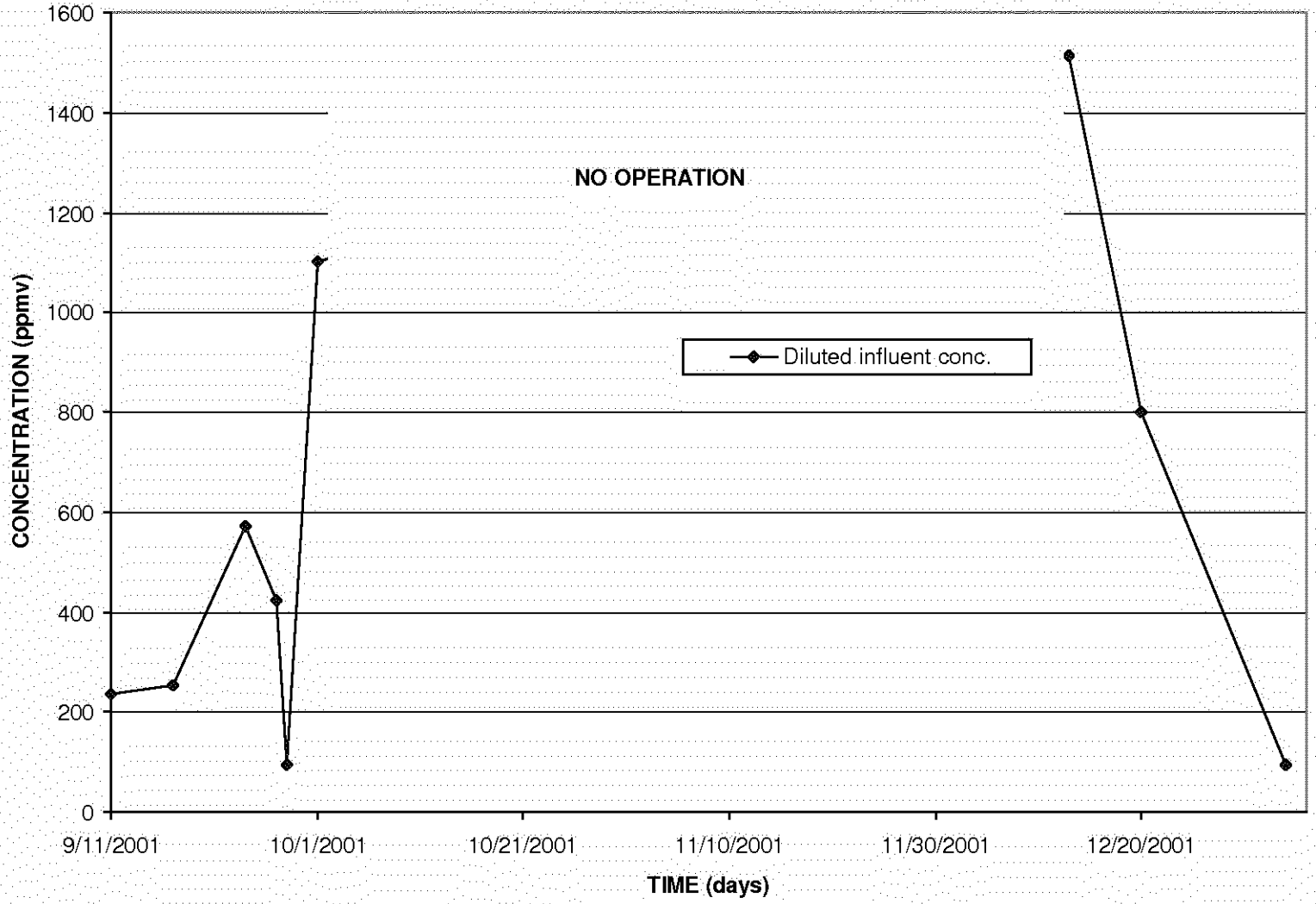
WELL ID	DATE	TIME	FLOW RATE (scfm)	VACUUM (inches H_2O)	WELLHEAD PID (ppmv)	COMMENTS
VEW-3A	9/11/2001	14:23	26	53	NA	
VEW-3B	9/17/2001	18:00	5	60	NA	
VEW-3B	9/24/2001	15:00	12	59	NA	
VEW-5A	9/27/2001	9:45	35	55	870	
VEW-6A	9/28/2001	11:00	14	77	NA	
VEW-5B	10/1/2001	10:00	23	64	NA	System shut down, site grading and well replacement
VEW-24B	12/13/2001	15:00	7	54	>10,000	New well, system restarted
VEW-24B	12/20/2001	14:15	6	47	>10,000	System shut down, Carbon changeout
VEW-24B	1/3/2002	13:15	32	48	NA	

Notes:
scfm = standard cubic feet per minute
ppmv = parts per million by volume
NA = Data not applicable or not recorded
> Greater than

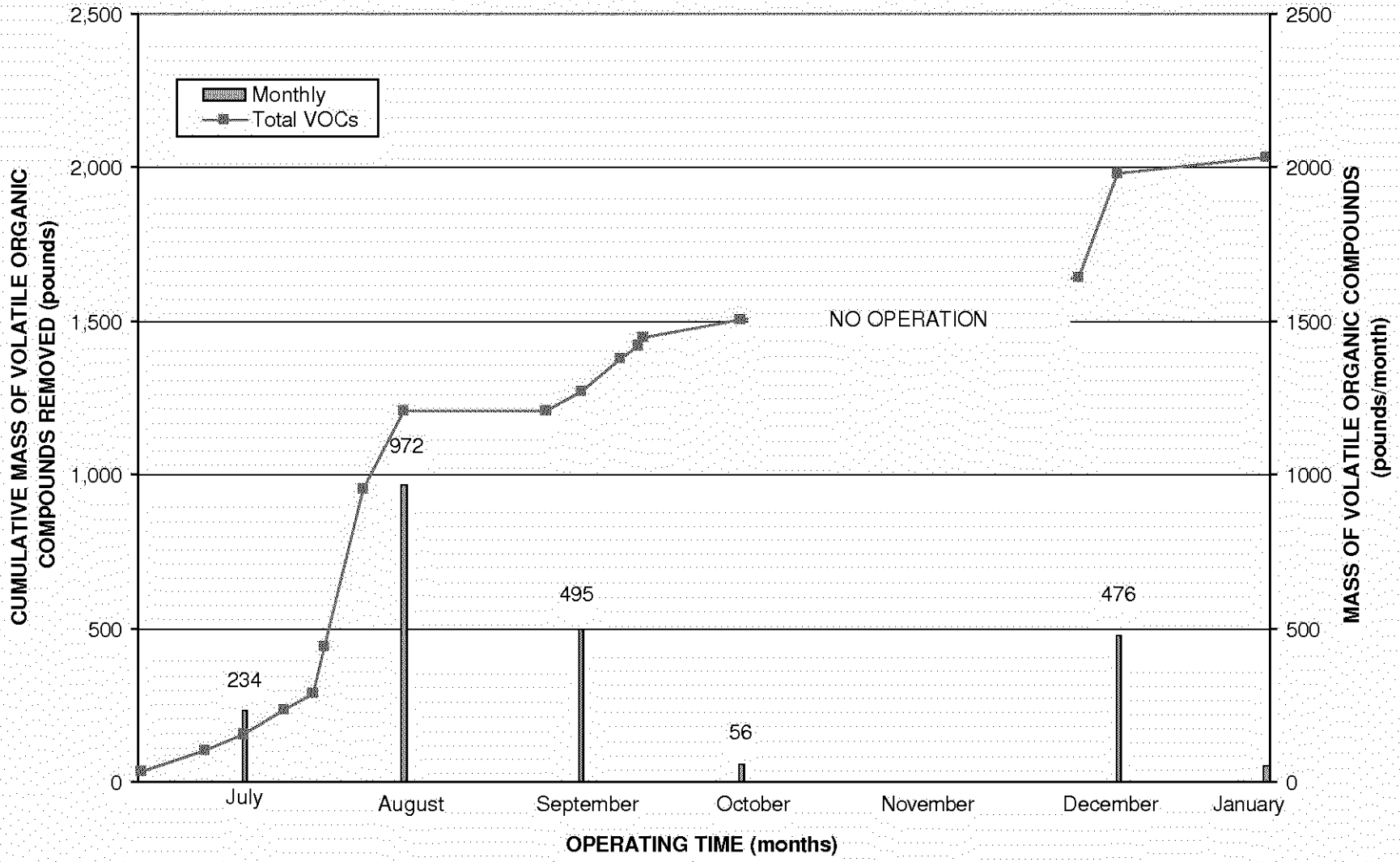
GRAPH 1
BUILDING 1/36 MONTHLY PERCENT OPERATION



GRAPH 2
BUILDING 1/36 SVE SYSTEM TOTAL VOC INFLUENT CONCENTRATIONS



GRAPH 3
BUILDING 1/36 CUMULATIVE VOLATILE ORGANIC COMPOUND MASS REMOVED



ATTACHMENT 2

BUILDING 2
SVE OPERATIONAL DATA

TABLE 1 - BUILDING 2 TREATMENT SYSTEM INFLUENT LABORATORY DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

COMPOUND	SAMPLE DATE	11/28/2001	11/30/2001	12/3/2001	12/4/2001	12/5/2001	12/6/2001	1/3/2002
	SAMPLE TYPE	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet	Diluted Inlet
	LAB ID	DILUTED INLET(11B, 14B)	INLET_ VEW_11B,14B 11/30/01	INLET_ VEW_11B,14B 12/3/01	INLET_ VEW_11B,14B 12/4/01	INLET_ VEW_11B,14B 12/5/02	INLET_ VEW_11B,14B 12/6/03	DILUTED_INLET _ BLDG_2_01/03/02
1,1 Dichloroethene (ppbv)		220	330	19	730	1,500	1,600	660
1,1,1 Trichloroethane (ppbv)		13	15	1	35	73	92	280
Trichloroethene (ppbv)		4,600	5,200	220	10,000	18,000	21,000	7,500
Tetrachloroethene (ppbv)		59	59	3	100	180	260	84
Trichlorofluoromethane (ppbv)		11	16	1	31	64	59	19

Notes:
ppbv = parts per billion by volume

TABLE 2 - BUILDING 2 TREATMENT SYSTEM FIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

DATE	HOUR METER	TIME	UNDILUTED FLOW RATE (1) (scfm)	UNDILUTED VACUUM (inches H_2O)	DILUTED FLOW RATE (1) (scfm)	DILUTED INFLUENT PID (2) (ppmv)	MID PONT CARBON PID (2) (ppmv)	EFFLUENT CARBON PID (2) (ppmv)	COMMENTS
11/28/2001	24	13:15	75	28	725	58	0.0	0.0	
11/30/2001	75	14:20	80	NR	750	60	3.6	2.0	
12/3/2001	76	17:10	85	NR	750	18	0.4	0.0	
12/4/2001	93	10:15	67	NR	750	98	3.0	0.0	
12/5/2001	123	16:30	68	NR	790	167	1.8	0.0	
12/6/2001	138	8:30	65	29	795	265	7.1	5.0	
12/7/2001	161	7:30	66	29.5	795	245	0.5	0.2	
12/8/2001	196	16:00	70	29	770	250	5.9	5.1	
12/9/2001	217	13:00	190	29.5	770	230	4.5	0.9	
12/10/2001	244	16:00	65	29.2	760	95	5.5	0.0	
12/11/2001	263	11:00	55	30.5	760	310	0.2	0.0	
12/12/2001	295	19:15	75	29.5	780	350	0.5	0.0	
12/13/2001	311	11:15	69	30	775	380	0.3	0.0	
12/20/2001	479	15:10	95	39	775	350	33.0	0.0	
12/28/2001	647	11:00	400	29	770	480	* 8.0	0.0	System shut down, Carbon changeout
1/3/2002	785	15:00	65	29	795	32	0.0	0.0	

Notes:
(1) Direct flow readings taken by hand-held TSI Veloci-calc Plus or orifice plate
(2) Measurements taken with a MiniRae 2000 PID calibrated to 100 ppmv Hexane, expressed as Hexane
scfm = standard cubic feet per minute
ppmv = parts per million by volume
NR = Not Recorded
* = Not a representative sample

TABLE 3 - WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (scfm)	VACUUM (inches H_2O)	WELLHEAD PID (ppmv)	COMMENTS
2-VEW-1A	11/27/2001	13:00	39	20	1200	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	NA	22	140	Well Opened
2-VEW-1B	11/27/2001	13:00	11	17	>10,000	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	NA	29	2800	Well Opened
2-VEW-2	11/27/2001	13:00	60	25	1300	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	70	20	740	Well Opened
2-VEW-3A	11/27/2001	13:00	20	20	710	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	12	22	160	Well Opened
	11/27/2001	13:00	11	25.0	2250	Initial Startup
	11/28/2001	13:15	NA	0.1	NA	Well Closed
	11/30/2001	14:20	NA	0.7	NA	"
	12/3/2001	17:10	NA	0.2	NA	"
	12/4/2001	10:15	NA	0.9	NA	"
	12/5/2001	16:30	NA	0.6	NA	"
	12/6/2001	8:30	NA	0.8	NA	"
	12/7/2001	7:30	NA	1.2	NA	"
2-VEW-3B	12/8/2001	16:00	NA	0.1	NA	"
	12/9/2001	13:00	NA	0.0	NA	"
	12/10/2001	16:00	NA	0.4	NA	"
	12/11/2001	11:00	NA	1.4	NA	"
	12/12/2001	19:15	8	29.5	1900	Well Opened
	12/13/2001	11:15	8	29.0	1675	"
	12/20/2001	15:10	17	39.0	1345	"
	12/28/2001	11:00	15	23.0	220	"
	1/3/2002	15:00	15	23.0	220	"
2-VEW-4	11/27/2001	13:00	30	25	1250	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	15	450	Well Opened
2-VEW-5	11/27/2001	13:00	90	25	1075	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	17	800	Well Opened
2-VEW-6	11/27/2001	13:00	52	25	>10,000	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	NA	15	625	Well Opened
2-VEW-7A	11/27/2001	13:00	13	25	360	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	20	100	Well Opened
	11/27/2001	13:00	60	25.0	600	Initial Startup
	11/28/2001	13:15	NA	0.3	NA	Well Closed
	11/30/2001	14:20	NA	0.9	NA	"
	12/3/2001	17:10	NA	0.2	NA	"
	12/4/2001	10:15	NA	1.2	NA	"
	12/5/2001	16:30	NA	0.8	NA	"
	12/6/2001	8:30	NA	1.0	NA	"
	12/7/2001	7:30	NA	1.4	NA	"
2-VEW-7B	12/8/2001	16:00	NA	0.1	NA	"
	12/9/2001	13:00	NA	0.0	NA	"
	12/10/2001	16:00	NA	0.5	NA	"
	12/11/2001	11:00	NA	1.6	NA	"
	12/12/2001	19:15	75	27.0	5450	Well Opened
	12/13/2001	11:15	85	29.0	4380	"
	12/20/2001	15:10	95	34.0	>10,000	"
	12/28/2001	11:00	75	20.0	100	"
	1/3/2002	15:00	75	20.0	100	"

TABLE 3 - WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (scfm)	VACUUM (inches H_2O)	WELLHEAD PID (ppmv)	COMMENTS
2-VEW-8A	11/27/2001	13:00	14	25	1675	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	10	20	240	Well Opened
2-VEW-8B	11/27/2001	13:00	56	30	3750	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	50	20	990	Well Opened
2-VEW-9	11/27/2001	13:00	38	30	2550	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	19	390	Well Opened
2-VEW-10A	11/27/2001	13:00	20	30	1400	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	22	45	Well Opened
2-VEW-10B	11/27/2001	13:00	45	30	1620	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	32	18	700	Well Opened
2-VEW-11A	11/27/2001	13:00	27	25	1700	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	21	110	Well Opened
2-VEW-11B	11/27/2001	13:00	19	30.0	1040	Initial Startup
	11/28/2001	13:15	NA	27.5	3100	Well Opened
	11/30/2001	14:20	NA	27.0	NA	"
	12/3/2001	17:10	NA	26.5	NA	"
	12/4/2001	10:15	NA	27.5	1510	"
	12/5/2001	16:30	NA	29.0	3200	"
	12/6/2001	8:30	NA	28.8	3015	"
	12/7/2001	7:30	NA	29.0	3600	"
	12/8/2001	16:00	NA	29.0	3100	"
	12/9/2001	13:00	NA	27.0	NA	"
	12/10/2001	16:00	NA	28.5	4700	"
	12/11/2001	11:00	NA	30.0	4100	Well Closed
	12/12/2001	19:15	NA	2.1	NA	"
	12/13/2001	11:15	NA	0.9	NA	"
	12/20/2001	15:10	NA	1.7	NA	"
	12/28/2001	11:00	15	22.0	520	Well Opened
	1/3/2002	15:00	15	22.0	520	"
2-VEW-12	11/27/2001	13:00	82	30	2500	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	19	390	Well Opened
2-VEW-13A	11/27/2001	13:00	17	25	1700	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	10	23	95	Well Opened
2-VEW-13B	11/27/2001	13:00	40	25	1850	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	35	21	990	Well Opened
2-VEW-14A	11/27/2001	13:00	18	25	1300	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	19	23	390	Well Opened

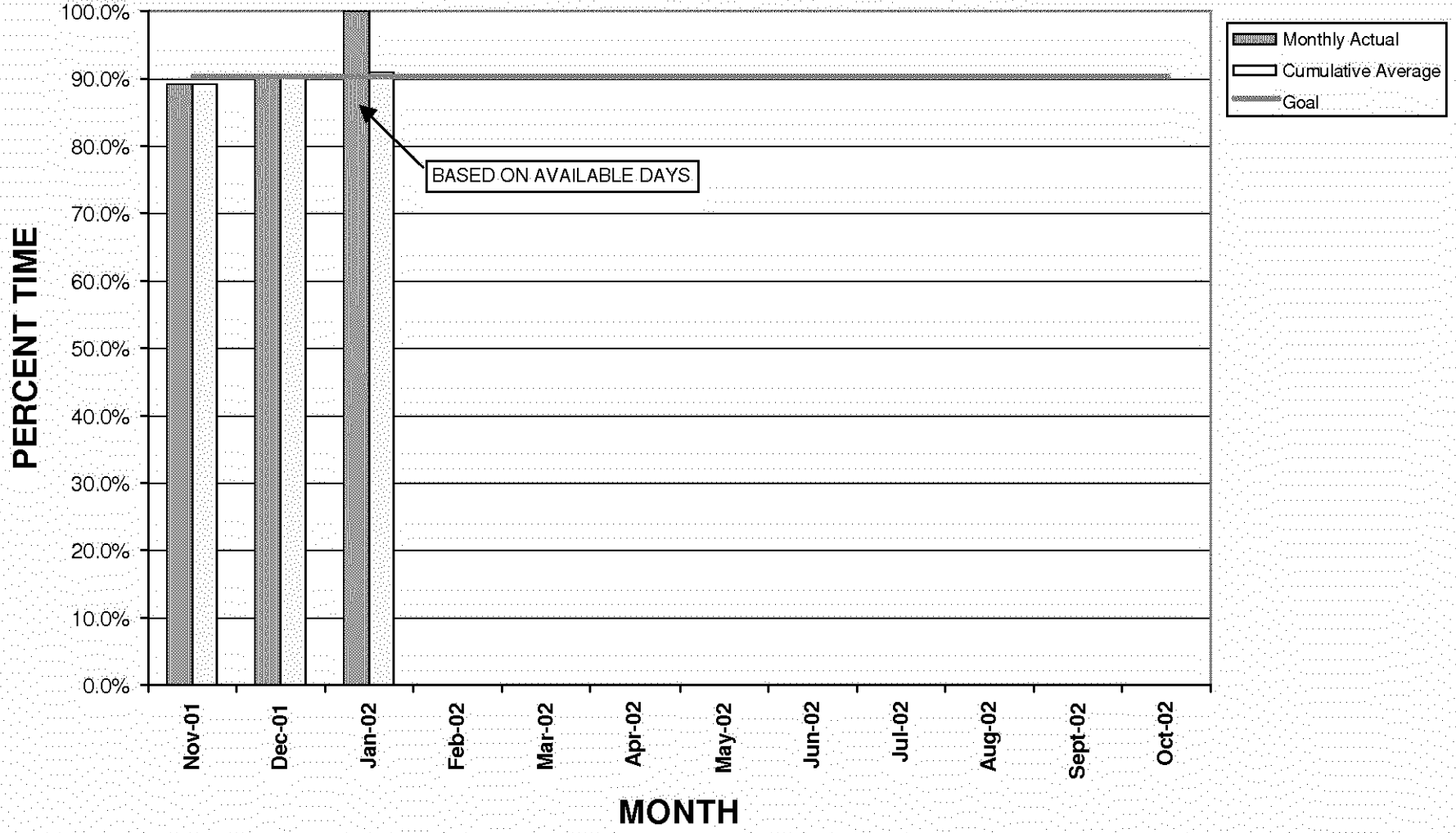
TABLE 3 - WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

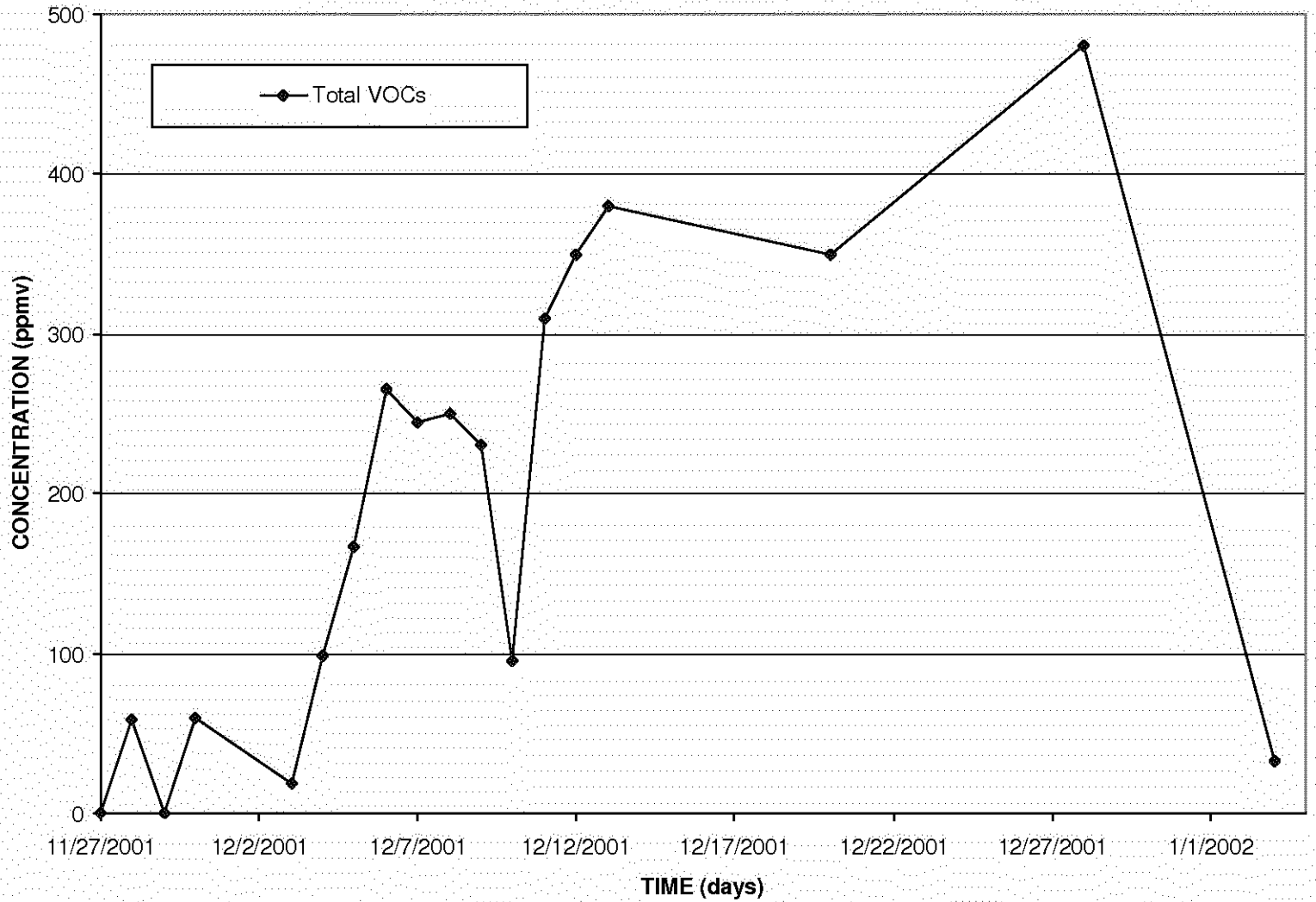
WELL ID	DATE	TIME	FLOW RATE (scfm)	VACUUM (inches H_2O)	WELLHEAD PID (ppmv)	COMMENTS
	11/27/2001	13:00	33	25.0	1750	Initial Startup
	11/28/2001	13:15	NA	27.5	3000	Well Opened
	11/30/2001	14:20	NA	27.0	NA	"
	12/3/2001	17:10	NA	26.0	NA	"
	12/4/2001	10:15	NA	28.0	960	"
	12/5/2001	16:30	NA	28.0	2400	"
	12/6/2001	8:30	NA	28.2	2930	"
	12/7/2001	7:30	NA	29.5	3875	"
2-VEW-14B	12/8/2001	16:00	NA	29.0	2650	"
	12/9/2001	13:00	NA	24.0	NA	"
	12/10/2001	16:00	NA	28.0	4075	"
	12/11/2001	11:00	NA	30.0	3850	Well Closed
	12/12/2001	19:15	NA	1.9	NA	"
	12/13/2001	11:15	NA	0.8	NA	"
	12/20/2001	15:10	NA	1.6	NA	"
	12/28/2001	11:00	40	21.0	830	Well Opened
	1/3/2002	15:00	40	21.0	830	"
2-VEW-15A	11/27/2001	13:00	41	30	1170	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	23	18	67	Well Opened
2-VEW-15B	11/27/2001	13:00	22	25	1120	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	21	575	Well Opened

Notes:
scfm = standard cubic feet per minute
ppmv = parts per million by volume
NA = Data not applicable or not recorded
> Greater than
NA = Data was not available or collected

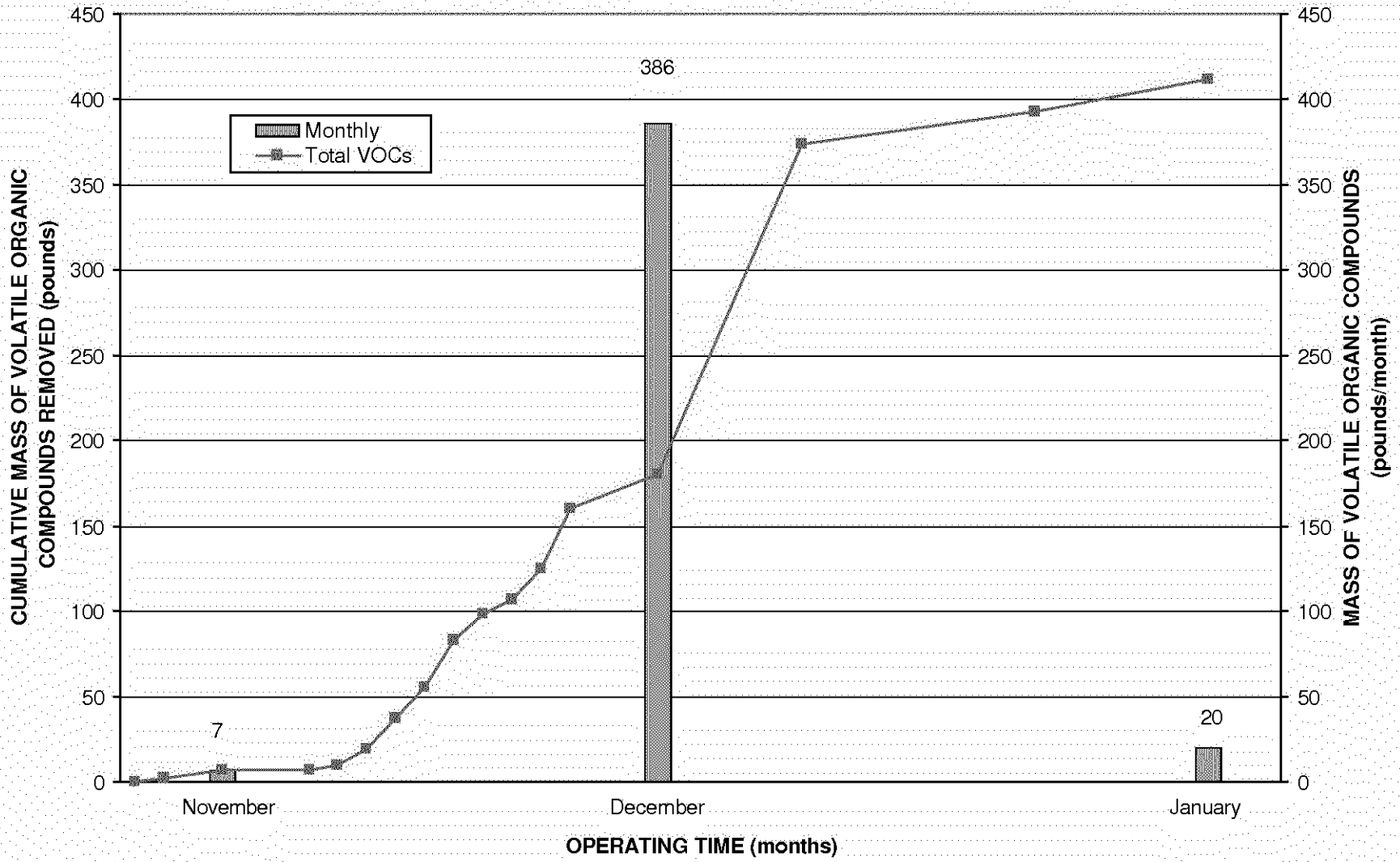
GRAPH 1
BUILDING 2 MONTHLY PERCENT OPERATION



GRAPH 2
BUILDING 2 SVE SYSTEM DILUTED INFLUENT CONCENTRATIONS



GRAPH 3
BUILDING 2 CUMULATIVE VOLATILE ORGANIC COMPOUND MASS REMOVED



Boeing Realty Corporation
3760 Kilroy Airport Way, Suite 500
Long Beach, CA 90806
Telephone: 562-627-4900
FAX: 562-627-4906

30 January 2002
C6-BRC-T-02-002

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

BOEING

Attention: John Geroch

Subject: **QUARTERLY REPORT NO. 1, FOURTH QUARTER 2001, EXTENDED SOIL VAPOR EXTRACTION PILOT TESTING FOR BOEING REALTY CORPORATION, FORMER C-6 FACILITY, 19503 SOUTH NORMANDIE AVENUE, LOS ANGELES, CA**

Dear Mr. Geroch:

Please find enclosed for your review, a copy of the subject document prepared by Haley & Aldrich for Boeing Realty Corporation.

If you have any questions concerning this document, please contact the undersigned at 562-593-8623.

Sincerely,

Stephanie Sibbett
Boeing Realty Corporation

Cc: Mario Stavale, Boeing Realty Corporation

enclosure